

COMMANDING OFFICER  
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ERRATA #1

Specific Instructions and Errata for  
Training Manual (TRAMAN)

GAS TURBINE SYSTEMS TECHNICIAN (MECHANICAL) 2,  
NAVEDTRA 12157

1. No attempt has been made to issue corrections for errors in typing, punctuation, etc.
2. Whenever the following manuals are referenced, make the indicated changes in the training manual:
  - a. Change *Tools and Their Uses*, NAVEDTRA 10085, to *Use and Care of Hand Tools and Measuring Tools*, NAVEDTRA 12085.
  - b. Change NAVPERS 10868E (change 2), to NAVPERS 18068 (VOLUME 1)
  - c. Change *Blueprint Reading and Sketching*, NAVEDTRA 10077, to *Blueprint Reading and Sketching*, NAVEDTRA 12014.
  - d. Change *Electrician's Mate 3&2*, NAVEDTRA 10546-F to *Electrician's Mate*, NAVEDTRA 12164.
3. Change the following items in the training manual:
  - a. Delete all references to "Patrol combat missile hydrofoils" and "PHM" throughout the TRAMAN.
  - b. In all cases where "AEL Mk I/Mk II" appears, change to read "Free Water Detector (FWD)."
  - c. In all cases where "AEL Mk III" appears, change to read "Contaminated Fuel Detector (CFD)."
  - d. Page 2-8, at the end of the paragraph just before the heading "Flash Point Tester," add a new sentence to read "The combined features of the FWD and CFD are found in the combined contaminated fuel detector (CCFD)."
  - e. Page 2-12, under the heading "Refueling Evolution," to the end of the first sentence add "if sediment is present."
  - f. Page 2-12, under the heading "BS&W TEST," delete procedural steps 1- 8 following " two 100-milliliter (mL) centrifuge tubes, and a centrifuge. Replace with "Perform the BS&W test by following the procedures in NSTM Chapter 541."
  - g. Page 2-13, under the heading "API Gravity Test," delete the last sentence of the second paragraph and replace with "Perform the API Gravity Test by following the procedures in NSTM Chapter 541." Delete all information in procedural steps 1-5.
  - h. Page 2-13, under the heading "FLASH POINT TEST," delete the last sentence of the second paragraph to replace with "Perform the Flash Point Test by following the procedures in NSTM Chapter 541." Delete all information in procedural steps 1-8 up to "Water Contamination Test" on page 2-14.

- i. Page 2-14, under the heading "Service Tank Replenishment," change the last sentence of the third paragraph to read "If the service tank remains idle for over 48 hours, perform a visual sample and recirculate the fuel if sediment or water is present." Under the heading "AEL Mk III" (which now is changed to Contaminated Fuel Detector (CFD)), after the sentence "All the equipment and parts you will need are stored in the unit," delete the remainder of the paragraph and all information in procedural steps 1-11 up to "With a little practice..." on page 2-15. Add "Perform the Contaminated Fuel Test by following the procedures in NSTM Chapter 541."
- j. Page 2-16, under the heading "AEL Mk II" (which now is changed to "Free Water Detector," delete the last sentence of the first paragraph and add "Perform the Free Water Test by following the procedures in NSTM Chapter 541." Also delete all information in procedural steps 1-10.
- k. Page 2-17, under heading "Testing," change the last sentence of the third paragraph to read "Perform the FSII test by following the procedures in NSTM Chapter 542." Also delete all information in procedural steps 1-11.
- l. Page 2-19, under heading "Thief Method," change last sentence of first paragraph to read "Perform a thief sample by following the procedures in NSTM Chapter 262." Also delete all information in procedural steps 1-6.
- m. Page 2-20, under heading "Standards," change second paragraph to read "After the haze has settled out, invert the sample bottle and look for sediment or water particles. If you observe any particulate matter or water, your sample has failed the clear and bright criteria. Additional testing will be required to determine the suitability of the oil. The additional tests required depend on the type of oil and the equipment it lubricates."
- n. Page 2-20, under the heading "BS&W Test" in the first paragraph, change the first sentence to read "You will perform the BS&W test on all 2000 series oils."
- o. Page 2-21, under the heading "Mineral Oil Contamination Test," change the last sentence of the first paragraph to read "To perform the Mineral Oil Contamination Test, use the procedures in NSTM Chapter 234." Also delete all information in procedural steps 1-4.
- p. Page 2-21, under the heading "Oil Acidity Test," change the last sentence of the first paragraph to read "Perform the Oil Acidity Test by following the procedures in NSTM Chapter 233." Also delete all information in procedural steps 1-5.
- q. Page 2-21, under the heading "Fuel Dilution and Oil Thickening Test," change the last sentence of the first paragraph to read "Perform the Fuel Dilution and Oil Thickening tests by following the procedures in NSTM Chapter 233." Also delete all information in procedural steps 1-6 and information up to the paragraph starting with "The standards of the test are logical..." on page 2-22.
- r. Page 2-24, under the heading "STEAMING BOILERS" in item #6, change "1 hour" to "90 minutes."
- s. Page 2-25, in Table 2-1 in the last row under the second column titled "Test Frequency," change "Within 2 hours after light off and daily thereafter" to "Within 2 - 3 hours after light off and daily thereafter." In the last row under "Maximum Limit or Range," change "5 ppb" to "15 ppb." Also in the fifth row, "Distiller Air Ejector Drains," under the column titled "Test Frequency," change "As required\*" to "Daily."
- t. Pages 2-36 through 2-38, Figures 2-15, 2-16, and 2-17, add "Note: See NSTM Chapter 220, Volume 2, Section 27, for sample entries utilizing these forms."
- u. Page 3-4, under the heading "Starter Air System" in the second paragraph, change the third sentence to read: "This valve is

controllable at the PLCC or PACC and can provide either one of two functions:..."

- v. Page 3-18, under the heading "Gas Turbine Control" in the third paragraph, change the second sentence to read: "When the operator depresses the ON push button, the signal is combined with the HIGH PRESS or BLEED indication signal in the input/output multiplexer hardware."
- w. Page 3-23, under the heading "Fuel Oil Service System" in the third paragraph, change the first sentence to read: "The suction and return electric-operated valves are electrically connected so when the tank suction valve is opened, the return valve also opens."
- x. Page 4-21, under the heading "Deaerating Feed Tank," change "within 2 hours after start-up and daily thereafter" to "within 2 - 3 hours after start-up and daily thereafter."
- y. Page 6-1, change Chapter 6 title from "LCAC AND PHM PROPULSION SYSTEMS" to "LCAC PROPULSION SYSTEMS." Delete all references to "patrol combatant missile (hydrofoil)" and "PHM."
- z. Page 6-7, under the heading "Air Bleed System," change combustor to compressor.
- aa. Page 6-47, under the heading "SUMMARY," change the entire text to read:

"This chapter has provided you with a variety of information to help you become familiar with the propulsion systems and electrical systems on the LCAC-class ships.

In this chapter, we discussed several of the control systems used on the LCAC. We also discussed the control console, the vessel's electrical system, and the APU. We briefly described the LCAC's maintenance system and the troubleshooting techniques used in isolating and repairing equipment malfunctions.

As a GSM, you may find yourself assigned to one of these ships. This chapter should have provided you with a basic understanding of the engineering systems found on the LCAC-class ships."

- bb. Page 7-1, under the heading "PRIME MOVERS," in the second paragraph, delete "The Garrett ME 831-800A GTE is installed on the PHM class ships."
- cc. Page 7-9, under the heading "Hand Pump Assembly," rewrite the third paragraph to read "Now that we have discussed the important design differences in the Allison 501-K17 and K34 models, let's look at the Sunstrand T-62T-40-7 auxiliary power unit (APU) found on the LCACs. In chapter 6, you were given an overview of this prime mover. In the following section, we will present additional information that you, the GSM, should be aware of concerning this important engine."
- dd. Pages 7-9 through 7-25, delete the entire text from the heading "GARRETT ME 831-800A" through and including "BLEEDAIR (DE-ICING) SYSTEM."
- ee. Pages 7-9 through 7-22, delete Figures 7-5 through 7-22.
- ff. Page 7-32, under the heading "Start Fuel Solenoid Valve," change "At 90 percent" to "At 65 percent."
- gg. Page 7-47, under the heading "Water Washing," in the third paragraph, delete "For example, let's look at the differences between the water wash system installed on the Allison and the one installed on the Garrett."
- hh. Page 7-47, change the heading "ALLISON AND GARRETT" to "ALLISON." Delete the existing paragraph text and replace with "The water wash system for the Allison is permanently piped, and the ship's low-pressure air system provides the required pressure."

- ii. Page 7-48, under the heading "CUSTOMER BLEED AIR VALVE," in the first sentence, delete the word "Garrett."
  - jj. Page 7-49, delete the headings "Garrett" and associated paragraphs in both columns on the page.
  - kk. Page 7-49, under the heading "COMBUSTION LINER," delete "Garrett" from the text. Under the subheading "Sunstrand," delete "Like the Garrett" and "Also like the Garrett."
  - ll. Page 7-49, under heading "COMBUSTOR DRAIN VALVES" and under the subheading "Allison," delete "Garrett."
  - mm. Page 7-50, delete the word "Garrett" in all sentences or paragraphs on the page. Under the heading "Cables," delete the last sentence in paragraph. Under the heading "FUEL MANIFOLD DRAIN VALVES," delete the first sentence and delete the heading "Allison." Delete the heading "Garrett." and the sentence associated with the heading "Garrett."
  - nn. Page 7-56, delete the heading "PHM-Class Ships" and its associated paragraph.
  - oo. Page 7-56, under the heading "Lubricating Oil System," delete the following sentence: "On the PHM-class ships, the SSPUs use 23699 oil for lubrication."
  - pp. Page 7-59, under the heading "Cooling System," in the first paragraph, delete "and the SSPU found on the PHM-class ships."
  - qq. Page 7-61, under the heading "SUMMARY," delete "the Garrett found on the PHM-class ships."
4. Change the following items in the appendices of the training manual:
- a. Page AI-1, delete "BULKHEAD-MOUNTED ELECTRONICS ENCLOSURE (BMEE)" and its definition.
  - b. Page AI-3, delete "ENGINEER'S OPERATING STATION (EOS)" and its definition.
  - c. Page AI-8, in the definition for "WASTE HEAT BOILER (WHB)," delete "DDG-51."
  - d. Page AII-3, delete "PHM" and its definition.